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CLAIMS

[Claim(s)]

[Claim 1]A multiplex-broadcasting receiving set comprising provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information: An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in said multiplex-broadcasting demodulation section.
A telephone number extraction part which extracts a telephone number from the inside of text memorized by this alphabetic-information-storage part.
A character display which displays text memorized by a telephone number extracted by this telephone number extraction part or said alphabetic-information-storage part.
A telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on a telephone number or this character display displayed on this character display.

[Claim 2]A multiplex-broadcasting receiving set comprising provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information: An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in said multiplex-broadcasting demodulation section.
A telephone number extraction part which extracts a telephone number from the inside of text memorized by this alphabetic-information-storage part.
A character display which displays text memorized by a telephone number extracted by this telephone number extraction part or said alphabetic-information-storage part.
An autodial control section which generates a dial pulse based on a telephone number corresponding to text displayed on a telephone number or this character display displayed on

this character display.

[Claim 3]A multiplex-broadcasting receiving set characterized by said multiplex broadcasting being an FM multiplex broadcast in claim 1 or claim 2.

[Claim 4]A multiplex-broadcasting receiving set providing an identification-code-information storage parts store of device each which carries out identification-code-information memory in claim 3, and transmitting this identification code information after a dial.

[Claim 5]A multiplex-broadcasting receiving set receiving multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information, and dialing based on telephone number information and dial directions information in auxiliary information.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application]This invention relates to the device which receives especially an FM multiplex broadcast about the device in which multiplex-broadcasting reception is possible.

[0002]

[Description of the Prior Art]Conventionally, an FM multiplex broadcast is received and what displays the text, graphic information, etc. is considered. In the conventional FM multiplex broadcast receiving set, when telephone number information had been transmitted as information and it was going to call to this telephone number for example, it was dialing, looking at the telephone number displayed on the indicator.

[0003]

[Problem(s) to be Solved by the Invention]However, when dialed according to the telephone number displayed on the indicator of the conventional FM multiplex broadcast receiving set, the telephone number hung, the mistake etc. happened and it had the problem of making the 3rd person trouble. When the conventional FM multiplex broadcast receiving set was mounted and it called to the telephone number displayed on an indicator, the frequency where a cellular phone and a car telephone are used was high, and it increased, also when dialing during a run of a car, and it also had the problem of bringing an obstacle to the safety at the time of a run of a car.

[0004]This invention is made in view of said problem, and simplifies complicated dial control, and an object of this invention is to prevent the credit mistake in a telephone.

[0005]

[Means for Solving the Problem]Multiplex-broadcasting receiving set of this invention provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main

information is characterized by that claim 1 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in a multiplex-broadcasting demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

A telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on a telephone number displayed on a character display, or a character display.

[0006] Multiplex-broadcasting receiving set of this invention provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information is characterized by that claim 2 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in a multiplex-broadcasting demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

An autodial control section which generates a dial pulse based on a telephone number corresponding to text displayed on a telephone number displayed on a character display, or a character display.

[0007] Multiplex-broadcasting receiving set of this invention provided with an FM multiplex broadcast demodulation section which recovers auxiliary information from an FM multiplex broadcast which carried out multiplex [of the auxiliary information] to main information is characterized by that claim 3 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in an FM multiplex broadcast demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

A telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on a telephone number displayed on a

character display, or a character display. Or an autodial control section which generates a dial pulse based on a telephone number corresponding to text displayed on a telephone number displayed on a character display, or a character display.

[0008]An alphabetic-information-storage part which memorizes text in auxiliary information which recovered claim 4 from an FM multiplex broadcast which carried out multiplex [of the auxiliary information] to main information in an FM multiplex broadcast demodulation section in a multiplex-broadcasting receiving set provided with an FM multiplex broadcast demodulation section which restores to auxiliary information, A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part, A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part, a telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on an identification-code-information storage parts store of device each which carries out identification-code-information memory, and a telephone number displayed on a character display or a character display -- or, An autodial control section which generates a dial pulse based on a telephone number corresponding to text displayed on a telephone number displayed on a character display or a character display is provided, Identification code information memorized by identification-code-information storage parts store after a dial is transmitted.

[0009]Claim 5 receives multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information, and dials it based on telephone number information and dial directions information in auxiliary information.

[0010]

[Function]According to claim 1, telephone number information is extracted from the text of multiplex broadcasting, and it is transmitted to telephone with an autodial function for the dial information of the extracted telephone number based on a dial instruction input part. According to claim 2, autodial is carried out to the telephone number which extracted telephone number information from the text of multiplex broadcasting, and was extracted based on the dial instruction input part.

[0011]According to claim 3, autodial is carried out to the telephone number which extracted telephone number information from the text of the FM multiplex broadcast, and was extracted based on the dial instruction input part. According to claim 4, since an identification code can be transmitted, the communications-partner point can recognize this device. According to claim 5, multiplex broadcasting is received and it can call to the telephone number in the information.

[0012]

[Example]The example of the FM multiplex broadcast receiving set of this invention is described referring to drawing 1 thru/or drawing 6. First, the 1st example of the FM multiplex broadcast receiving set of this invention is described, referring to drawing 1.

[0013]The FM multiplex broadcast demodulation section to which 1 receives an FM multiplex broadcast via an antenna, and it restores in drawing 1, 2 is constituted by storages, such as RAM, a hard disk, a magneto-optical disc, The alphabetic-information-storage part which extracts and memorizes only text from the signal to which it restored by the FM multiplex broadcast demodulation section 1, The telephone number extraction part which extracts a telephone number from the text 3 is remembered to be by the alphabetic-information-storage part 2, The character display which displays the telephone number extracted by the text which 4 is constituted by LCD, CRT, a plasma display, etc. and is memorized by the alphabetic-information-storage part 2, and the telephone number extraction part 3, The dial instruction input part provided with the button which performs the directions which dial the telephone number as which 5 was displayed on the character display 4 at least, The telephone number sending part which sends out the telephone number which extracted 6 by the telephone number extraction part 3 based on directions of the dial instruction input part 5, and the signal of autodial directions to the telephone 11 with an autodial function via an interface (I/F) and a cable, and 7 comprise a CPU etc., It is a main control part which controls each function of the FM multiplex broadcast receiving set of this invention in generalization.

[0014]In the FM multiplex broadcast, the telephone number information for a request shall be sent as multiple sentence character information simultaneously with the speech information of a musical program, and the telephone number shall be added after the character string telephone number information suggests telephone numbers, such as a "telephone" and "TEL", saying. Recovery processing is carried out by the FM multiplex broadcast demodulation section 1, it separates into speech information, and a figure and text, and a figure and text are supplied to the FM multiplex broadcast received via the antenna by the alphabetic-information-storage part. Suppose that explanation is omitted about processing of speech information in this example.

[0015]The alphabetic-information-storage part 2 memorizes the figure and text supplied from the FM multiplex broadcast demodulation section 1. The telephone number extraction part 3 always carries out comparison detection of the character string which suggests telephone numbers, such as a "telephone" and "TEL", extracts 9 figures of numbers which continue after that thru/or 10 figures as a telephone number from the text memorized by the alphabetic-information-storage part 2, and stores them temporarily in the memory (not shown) which the telephone number extraction part 3 manages.

[0016]The telephone number extracted by the telephone number extraction part 3 is supplied and displayed on the character display 4. Information other than a telephone number is also

supplied and displayed on the character display 4 from the alphabetic-information-storage part 2. It is displayed that the telephone number of "request is 03-3456-7890 in the character display 4." When telephoning the telephone number of the request displayed on the character display 4, the operator of this FM multiplex broadcast receiving set pushes the dial indicating button of the dial instruction input part 5. A push on a dial indicating button will output a dial indication signal to the main control part 7 from the dial instruction input part 5.

[0017]The main control part 7 will be controlled to transmit now the telephone number information currently displayed on the character display 4 to the telephone number sending part 6, if a dial indication signal is detected. The telephone number sending part 6 will transmit autodial control information and telephone number information to the telephone 11 with an autodial function via general-purpose I/F (for example, RS-232C), if telephone number information is received from the telephone number extraction part 3. This telephone control information is an AT command, a V.25bis command, etc. The method of telephone control may be control not only by what transmits the telephone control information shown in this example but the signal wire using exclusive I/F, such as for example, making autodial (start by making into "H" the signal wire which sent telephone number information and was defined beforehand). Of course, the telephone 11 does not need to say that it is what can carry out autodial based on the telephone control by the signal wire which used this exclusive I/F. When connected with a public line via a private branch exchange etc., the dial information (for example, "0") which shows outside line connection may be added to the beginning of telephone number information.

[0018]The telephone 11 calls to this telephone number based on dial control information and telephone number information. After calling to the target telephone number, when connected with a partner, an operator can talk using the telephone 11. A cable or radio may be sufficient as the telephone 11. Next, the 2nd example of the FM multiplex broadcast receiving set of this invention is described, referring to drawing 2.

[0019]In drawing 2, since the attached number 1 thru/or 5 and 7 are drawing 1, the name, and the function, it omits explanation. The dialing circuit which performs autodial to the telephone number which 8 was connected to the public line and extracted by the telephone number extraction part 3 based on directions of the dial instruction input part 5, It is the autodial control section provided with the voice circuit which enables transmission and reception of the sound in a public line (operator) via the call device (not shown) constituted with an earphone, a microphone, etc. A public network may be a wired network or may be a radio network.

[0020]The telephone number information for a request shall be sent to the 2nd example as multiple sentence character information simultaneously [in an FM multiplex broadcast] with the speech information of a musical program like the 1st example. The telephone number shall be added after the character string telephone number information suggests telephone

numbers, such as a "telephone" and "TEL", saying. Recovery processing is carried out by the FM multiplex broadcast demodulation section 1, it separates into speech information, and a figure and text, and a figure and text are supplied to the FM multiplex broadcast received via the antenna by the alphabetic-information-storage part. Suppose that explanation is omitted about processing of speech information in this example.

[0021]The alphabetic-information-storage part 2 memorizes the figure and text supplied from the FM multiplex broadcast demodulation section 1. The telephone number extraction part 3 always carries out comparison detection of the character string which suggests telephone numbers, such as a "telephone" and "TEL", extracts 9 figures of numbers which continue after that thru/or 10 figures as a telephone number from the text memorized by the alphabetic-information-storage part 2, and stores them temporarily in the memory (not shown) which the telephone number extraction part 3 manages.

[0022]The telephone number extracted by the telephone number extraction part 3 is supplied and displayed on the character display 4. Information other than a telephone number is also supplied and displayed on the character display 4 from the alphabetic-information-storage part 2. It is displayed that the telephone number of "request is 03-3456-7890 in the character display 4." When telephoning the telephone number of the request displayed on the character display 4, the operator of this FM multiplex broadcast receiving set pushes the dial indicating button of the dial instruction input part 5. A push on a dial indicating button will output a dial indication signal to the main control part 7 from the dial instruction input part 5.

[0023]The main control part 7 will control the autodial control section 8 now to the telephone number currently displayed on the character display 4 to dial, if a dial indication signal is detected. The autodial control section 8 will start autodial to this telephone number, if telephone number information is received from the telephone number extraction part 3. After calling to the target telephone number, when connected with a partner, it can talk with call devices (not shown) which an operator can connect to the autodial control section 8, such as an earphone and a microphone. When connected with a public line via a private branch exchange etc., it may be made to start autodial based on what added the dial information (for example, "0") which shows outside line connection to the beginning of telephone number information.

[0024]In the above FM multiplex broadcast receiving sets, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, also when operation of an operator becomes easy and dials into an automobilism, it is ceased to cause trouble.

[0025]These shall be removed when "("and")" and "-" are added to the information on a telephone number at the time of extraction of the telephone number in the telephone number

extraction part 3. Although 9 figures of numbers which continue after the character string which suggests a telephone number thru/or 10 figures are made into the telephone number in this example, the arbitrary digit numbers which do not restrict to this example and were set up beforehand may be sufficient.

[0026]Next, the identification code of device each is set as the FM multiplex broadcast receiving set indicated in the 1st example or 2nd example, and the shopping system using an FM multiplex broadcast is explained according to drawing 3 and drawing 4. This example explains the shopping system of CD for music (compact disk). In drawing 3, since the attached numbers 1 thru/or 7 are drawing 1, the name, and the function, they omit explanation. 9 is an identification code storage parts store which memorizes the identification code information uniquely given to device each. An operator may input by a key input means (not shown) etc., may receive an identification code from a predetermined partner via a public line, and may also write the identification code memorized by the identification code storage parts store 9 in the identification code storage parts store 9.

[0027]In drawing 4, the FM multiplex broadcasting stations where 41 broadcasts CD information etc., the FM multiplex broadcast receiving set which showed 42 to drawing 3 which is the placing terminal in which the identification code was memorized beforehand, and 43 are goods centers which ship products according to the ordering information from a placing terminal. Simultaneously with the music dedicated by CD, from FM multiplex broadcasting stations 41, text, such as a telephone number etc. of the goods center 43 which is the product code, the trade names (CD title name, a singer name, etc.), and the object for order of the CD, is sent as multiple sentence character information. The telephone number shall be added after the character string telephone number information suggests telephone numbers, such as a "telephone" and "TEL", saying.

[0028]The placing terminal 42 receives the FM multiplex broadcast from FM multiplex broadcasting stations 41, and displays the product code and trade names of CD (CD title name, a singer name, etc.) on the character display 4. Speech information (music) shall be outputted from the voice response system which is not illustrated. Text is memorized by the alphabetic-information-storage part 2 only fixed time (for example, 24 hours) at this time.

[0029]When it is thought that the operator of the placing terminal 42 will purchase the goods displayed on the character display 4, it is an order key (in this example.). By pushing the dial indicating button of the dial instruction input part 5, it calls to the telephone number of the goods center 43 corresponding to the merchandise information displayed on the character display 4 (refer to drawing 5). The placing terminal 42 is connected with the ordering processing device (not shown) of the goods center 43 by the telephone 11 via a public network. Then, the placing terminal 42 transmits the product code of the goods currently displayed on the present character display 4, and the placing terminal identification code

memorized by the identification code storage parts store 9. As for the placing terminal 42 and the ordering processing device of the goods center 43, communication shall be performed using publicly known communication procedures, such as HDLC, and this communication procedure shall be memorized by the main control part 7 in the ordering processing device of the goods center 43, and a placing terminal.

[0030]In the goods center 43, when the customer data corresponding to an identification code are managed and there is an order of goods, it is a system which ships an ordered commodity to the address corresponding to the sent identification code. Although the shopping system using an FM multiplex broadcast explained using the FM multiplex broadcast receiving set shown in the placing terminal in the 1st example, it is clear to become the same placing terminal by forming the identification code storage parts store 9 in the FM multiplex broadcast receiving set shown in the 2nd example.

[0031]

[Effect of the Invention]In claim 1, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented and trouble is not made to the 3rd person. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, safety is secured, also when operation of an operator tends to become easy and tends to dial into an automobilism. Commercial telephone can be used and the cost cut of the multiplex-broadcasting receiving set of this invention can be aimed at.

[0032]In claim 2, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented and trouble is not made to the 3rd person. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, safety is secured, also when operation of an operator tends to become easy and tends to dial into an automobilism. Since the telephone function is built in, from the case where commercial telephone is used, an equipment configuration can be simplified and portability also improves.

[0033]It can use for an FM multiplex broadcast in claim 3. In claim 4, since the FM multiplex broadcast receiving set of this invention is discriminable, it can use for various services to be identified. In claim 5, it can dial using the information on multiplex broadcasting.

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TECHNICAL FIELD

[Industrial Application]This invention relates to the device which receives especially an FM multiplex broadcast about the device in which multiplex-broadcasting reception is possible.

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PRIOR ART

[Description of the Prior Art]Conventionally, an FM multiplex broadcast is received and what displays the text, graphic information, etc. is considered. In the conventional FM multiplex broadcast receiving set, when telephone number information had been transmitted as information and it was going to call to this telephone number for example, it was dialing, looking at the telephone number displayed on the indicator.

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EFFECT OF THE INVENTION

[Effect of the Invention]In claim 1, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented and trouble is not made to the 3rd person. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, safety is secured, also when operation of an operator tends to become easy and tends to dial into an automobilism. Commercial telephone can be used and the cost cut of the multiplex-broadcasting receiving set of this invention can be aimed at.

[0032]In claim 2, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented and trouble is not made to the 3rd person. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, safety is secured, also when operation of an operator tends to become easy and tends to dial into an automobilism. Since the telephone function is built in, from the case where commercial telephone is used, an equipment configuration can be simplified and portability also improves.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, when dialed according to the telephone number displayed on the indicator of the conventional FM multiplex broadcast receiving set, the telephone number hung, the mistake etc. happened and it had the problem of making the 3rd person trouble. When the conventional FM multiplex broadcast receiving set was mounted and it called to the telephone number displayed on an indicator, the frequency where a cellular phone and a car telephone are used was high, and it increased, also when dialing during a run of a car, and it also had the problem of bringing an obstacle to the safety at the time of a run of a car.

[0004]This invention is made in view of said problem, and simplifies complicated dial control, and an object of this invention is to prevent the credit mistake in a telephone.

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MEANS

[Means for Solving the Problem]Multiplex-broadcasting receiving set of this invention provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information is characterized by that claim 1 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in a multiplex-broadcasting demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

A telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on a telephone number displayed on a character display, or a character display.

[0006]Multiplex-broadcasting receiving set of this invention provided with a multiplex-broadcasting demodulation section which recovers auxiliary information from multiplex broadcasting which carried out multiplex [of the auxiliary information] to main information is characterized by that claim 2 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in a multiplex-broadcasting demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

An autodial control section which generates a dial pulse based on a telephone number

corresponding to text displayed on a telephone number displayed on a character display, or a character display.

[0007] Multiplex-broadcasting receiving set of this invention provided with an FM multiplex broadcast demodulation section which recovers auxiliary information from an FM multiplex broadcast which carried out multiplex [of the auxiliary information] to main information is characterized by that claim 3 comprises the following.

An alphabetic-information-storage part which memorizes text in auxiliary information to which it restored in an FM multiplex broadcast demodulation section.

A telephone number extraction part which extracts a telephone number from the inside of text memorized by alphabetic-information-storage part.

A character display which displays text memorized by a telephone number extracted by telephone number extraction part or said alphabetic-information-storage part.

A telephone number sending part which sends out a telephone number and an autodial indication signal corresponding to text displayed on a telephone number displayed on a character display, or a character display. Or an autodial control section which generates a dial pulse based on a telephone number corresponding to text displayed on a telephone number displayed on a character display, or a character display.

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OPERATION

[Function]According to claim 1, telephone number information is extracted from the text of multiplex broadcasting, and it is transmitted to telephone with an autodial function for the dial information of the extracted telephone number based on a dial instruction input part. According to claim 2, autodial is carried out to the telephone number which extracted telephone number information from the text of multiplex broadcasting, and was extracted based on the dial instruction input part.

[0011]According to claim 3, autodial is carried out to the telephone number which extracted telephone number information from the text of the FM multiplex broadcast, and was extracted based on the dial instruction input part. According to claim 4, since an identification code can be transmitted, the communications-partner point can recognize this device. According to claim 5, multiplex broadcasting is received and it can call to the telephone number in the information.

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EXAMPLE

[Example] The example of the FM multiplex broadcast receiving set of this invention is described referring to drawing 1 thru/or drawing 6. First, the 1st example of the FM multiplex broadcast receiving set of this invention is described, referring to drawing 1.

[0013] The FM multiplex broadcast demodulation section to which 1 receives an FM multiplex broadcast via an antenna, and it restores in drawing 1, 2 is constituted by storages, such as RAM, a hard disk, a magneto-optical disc, The alphabetic-information-storage part which extracts and memorizes only text from the signal to which it restored by the FM multiplex broadcast demodulation section 1, The telephone number extraction part which extracts a telephone number from the text 3 is remembered to be by the alphabetic-information-storage part 2, The character display which displays the telephone number extracted by the text which 4 is constituted by LCD, CRT, a plasma display, etc. and is memorized by the alphabetic-information-storage part 2, and the telephone number extraction part 3, The dial instruction input part provided with the button which performs the directions which dial the telephone number as which 5 was displayed on the character display 4 at least, The telephone number sending part which sends out the telephone number which extracted 6 by the telephone number extraction part 3 based on directions of the dial instruction input part 5, and the signal of autodial directions to the telephone 11 with an autodial function via an interface (I/F) and a cable, and 7 comprise a CPU etc., It is a main control part which controls each function of the FM multiplex broadcast receiving set of this invention in generalization.

[0014] In the FM multiplex broadcast, the telephone number information for a request shall be sent as multiple sentence character information simultaneously with the speech information of a musical program, and the telephone number shall be added after the character string telephone number information suggests telephone numbers, such as a "telephone" and "TEL", saying. Recovery processing is carried out by the FM multiplex broadcast demodulation section 1, it separates into speech information, and a figure and text, and a figure and text are

supplied to the FM multiplex broadcast received via the antenna by the alphabetic-information-storage part. Suppose that explanation is omitted about processing of speech information in this example.

[0015]The alphabetic-information-storage part 2 memorizes the figure and text supplied from the FM multiplex broadcast demodulation section 1. The telephone number extraction part 3 always carries out comparison detection of the character string which suggests telephone numbers, such as a "telephone" and "TEL", extracts 9 figures of numbers which continue after that thru/or 10 figures as a telephone number from the text memorized by the alphabetic-information-storage part 2, and stores them temporarily in the memory (not shown) which the telephone number extraction part 3 manages.

[0016]The telephone number extracted by the telephone number extraction part 3 is supplied and displayed on the character display 4. Information other than a telephone number is also supplied and displayed on the character display 4 from the alphabetic-information-storage part 2. It is displayed that the telephone number of "request is 03-3456-7890 in the character display 4." When telephoning the telephone number of the request displayed on the character display 4, the operator of this FM multiplex broadcast receiving set pushes the dial indicating button of the dial instruction input part 5. A push on a dial indicating button will output a dial indication signal to the main control part 7 from the dial instruction input part 5.

[0017]The main control part 7 will be controlled to transmit now the telephone number information currently displayed on the character display 4 to the telephone number sending part 6, if a dial indication signal is detected. The telephone number sending part 6 will transmit autodial control information and telephone number information to the telephone 11 with an autodial function via general-purpose I/F (for example, RS-232C), if telephone number information is received from the telephone number extraction part 3. This telephone control information is an AT command, a V.25bis command, etc. The method of telephone control may be control not only by what transmits the telephone control information shown in this example but the signal wire using exclusive I/F, such as for example, making autodial (start by making into "H" the signal wire which sent telephone number information and was defined beforehand). Of course, the telephone 11 does not need to say that it is what can carry out autodial based on the telephone control by the signal wire which used this exclusive I/F. When connected with a public line via a private branch exchange etc., the dial information (for example, "0") which shows outside line connection may be added to the beginning of telephone number information.

[0018]The telephone 11 calls to this telephone number based on dial control information and telephone number information. After calling to the target telephone number, when connected with a partner, an operator can talk using the telephone 11. A cable or radio may be sufficient as the telephone 11. Next, the 2nd example of the FM multiplex broadcast receiving set of this

invention is described, referring to drawing 2.

[0019]In drawing 2, since the attached number 1 thru/or 5 and 7 are drawing 1, the name, and the function, it omits explanation. The dialing circuit which performs autodial to the telephone number which 8 was connected to the public line and extracted by the telephone number extraction part 3 based on directions of the dial instruction input part 5, It is the autodial control section provided with the voice circuit which enables transmission and reception of the sound in a public line (operator) via the call device (not shown) constituted with an earphone, a microphone, etc. A public network may be a wired network or may be a radio network.

[0020]The telephone number information for a request shall be sent to the 2nd example as multiple sentence character information simultaneously [in an FM multiplex broadcast] with the speech information of a musical program like the 1st example. The telephone number shall be added after the character string telephone number information suggests telephone numbers, such as a "telephone" and "TEL", saying. Recovery processing is carried out by the FM multiplex broadcast demodulation section 1, it separates into speech information, and a figure and text, and a figure and text are supplied to the FM multiplex broadcast received via the antenna by the alphabetic-information-storage part. Suppose that explanation is omitted about processing of speech information in this example.

[0021]The alphabetic-information-storage part 2 memorizes the figure and text supplied from the FM multiplex broadcast demodulation section 1. The telephone number extraction part 3 always carries out comparison detection of the character string which suggests telephone numbers, such as a "telephone" and "TEL", extracts 9 figures of numbers which continue after that thru/or 10 figures as a telephone number from the text memorized by the alphabetic-information-storage part 2, and stores them temporarily in the memory (not shown) which the telephone number extraction part 3 manages.

[0022]The telephone number extracted by the telephone number extraction part 3 is supplied and displayed on the character display 4. Information other than a telephone number is also supplied and displayed on the character display 4 from the alphabetic-information-storage part 2. It is displayed that the telephone number of "request is 03-3456-7890 in the character display 4." When telephoning the telephone number of the request displayed on the character display 4, the operator of this FM multiplex broadcast receiving set pushes the dial indicating button of the dial instruction input part 5. A push on a dial indicating button will output a dial indication signal to the main control part 7 from the dial instruction input part 5.

[0023]The main control part 7 will control the autodial control section 8 now to the telephone number currently displayed on the character display 4 to dial, if a dial indication signal is detected. The autodial control section 8 will start autodial to this telephone number, if telephone number information is received from the telephone number extraction part 3. After calling to the target telephone number, when connected with a partner, it can talk with call

devices (not shown) which an operator can connect to the autodial control section 8, such as an earphone and a microphone. When connected with a public line via a private branch exchange etc., it may be made to start autodial based on what added the dial information (for example, "0") which shows outside line connection to the beginning of telephone number information.

[0024]In the above FM multiplex broadcast receiving sets, since it is not necessary to recognize a telephone number and can dial, the credit mistake in a telephone can be prevented. Since it can dial only by operating a dial indicating button when telephoning the target telephone number, also when operation of an operator becomes easy and dials into an automobilism, it is ceased to cause trouble.

[0025]These shall be removed when "("and")" and "-" are added to the information on a telephone number at the time of extraction of the telephone number in the telephone number extraction part 3. Although 9 figures of numbers which continue after the character string which suggests a telephone number thru/or 10 figures are made into the telephone number in this example, the arbitrary digit numbers which do not restrict to this example and were set up beforehand may be sufficient.

[0026]Next, the identification code of device each is set as the FM multiplex broadcast receiving set indicated in the 1st example or 2nd example, and the shopping system using an FM multiplex broadcast is explained according to drawing 3 and drawing 4. This example explains the shopping system of CD for music (compact disk). In drawing 3, since the attached numbers 1 thru/or 7 are drawing 1, the name, and the function, they omit explanation. 9 is an identification code storage parts store which memorizes the identification code information uniquely given to device each. An operator may input by a key input means (not shown) etc., may receive an identification code from a predetermined partner via a public line, and may also write the identification code memorized by the identification code storage parts store 9 in the identification code storage parts store 9.

[0027]In drawing 4, the FM multiplex broadcasting stations where 41 broadcasts CD information etc., the FM multiplex broadcast receiving set which showed 42 to drawing 3 which is the placing terminal in which the identification code was memorized beforehand, and 43 are goods centers which ship products according to the ordering information from a placing terminal. Simultaneously with the music dedicated by CD, from FM multiplex broadcasting stations 41, text, such as a telephone number etc. of the goods center 43 which is the product code, the trade names (CD title name, a singer name, etc.), and the object for order of the CD, is sent as multiple sentence character information. The telephone number shall be added after the character string telephone number information suggests telephone numbers, such as a "telephone" and "TEL", saying.

[0028]The placing terminal 42 receives the FM multiplex broadcast from FM multiplex

broadcasting stations 41, and displays the product code and trade names of CD (CD title name, a singer name, etc.) on the character display 4. Speech information (music) shall be outputted from the voice response system which is not illustrated. Text is memorized by the alphabetic-information-storage part 2 only fixed time (for example, 24 hours) at this time.

[0029]When it is thought that the operator of the placing terminal 42 will purchase the goods displayed on the character display 4, it is an order key (in this example.). By pushing the dial indicating button of the dial instruction input part 5, it calls to the telephone number of the goods center 43 corresponding to the merchandise information displayed on the character display 4 (refer to drawing 5). The placing terminal 42 is connected with the ordering processing device (not shown) of the goods center 43 by the telephone 11 via a public network. Then, the placing terminal 42 transmits the product code of the goods currently displayed on the present character display 4, and the placing terminal identification code memorized by the identification code storage parts store 9. As for the placing terminal 42 and the ordering processing device of the goods center 43, communication shall be performed using publicly known communication procedures, such as HDLC, and this communication procedure shall be memorized by the main control part 7 in the ordering processing device of the goods center 43, and a placing terminal.

[0030]In the goods center 43, when the customer data corresponding to an identification code are managed and there is an order of goods, it is a system which ships an ordered commodity to the address corresponding to the sent identification code. Although the shopping system using an FM multiplex broadcast explained using the FM multiplex broadcast receiving set shown in the placing terminal in the 1st example, it is clear to become the same placing terminal by forming the identification code storage parts store 9 in the FM multiplex broadcast receiving set shown in the 2nd example.

[Translation done.]

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
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- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a functional block diagram of the 1st example of the receiving set at the time of using the multiplex-broadcasting receiving set of this invention for an FM multiplex broadcast.

[Drawing 2]It is a functional block diagram of the 2nd example of ***** at the time of using the multiplex-broadcasting receiving set of this invention for an FM multiplex broadcast.

[Drawing 3]It is a functional block diagram when the multiplex-broadcasting receiving set of this invention is used for the placing terminal of a shopping system.

[Drawing 4]It is a mimetic diagram showing one example of the shopping system using the multiplex-broadcasting receiving set of this invention.

[Drawing 5]It is a mimetic diagram showing one example at the time of using the multiplex-broadcasting receiving set of this invention for a shopping system.

[Description of Notations]

- 1 FM multiplex broadcast demodulation section
- 2 Alphabetic-information-storage part
- 3 Telephone number extraction part
- 4 Character display
- 5 Dial instruction input part
- 6 Telephone number sending part
- 7 Main control part
- 8 Autodial control section
- 9 Identification code storage parts store
- 11 Telephone
- 41 FM multiplex broadcasting stations
- 43 Goods center

[Translation done.]

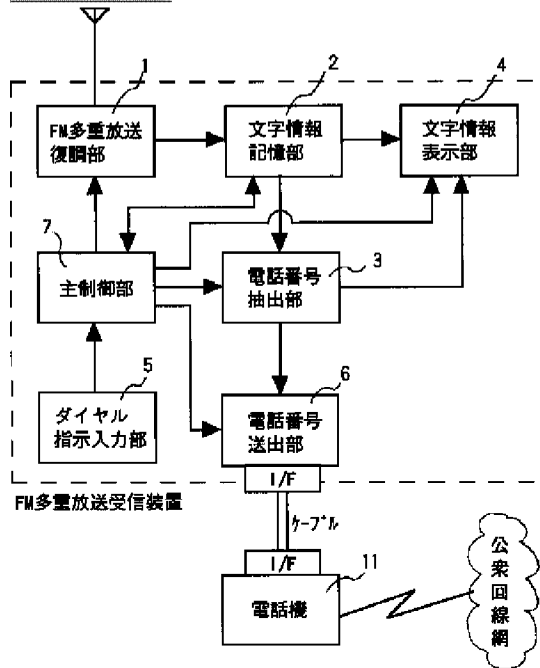
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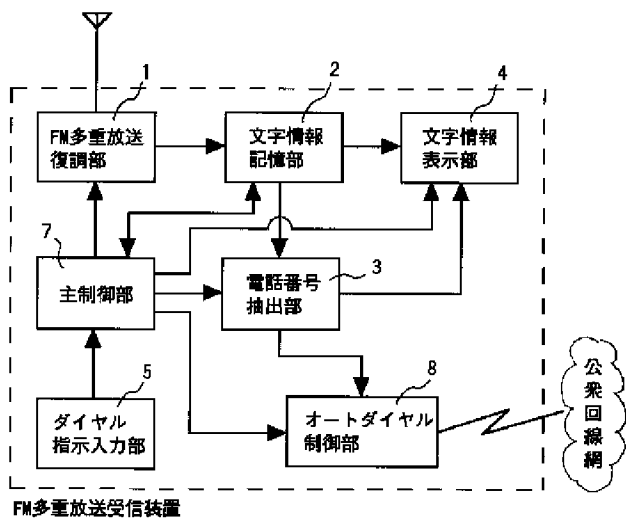
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DRAWINGS

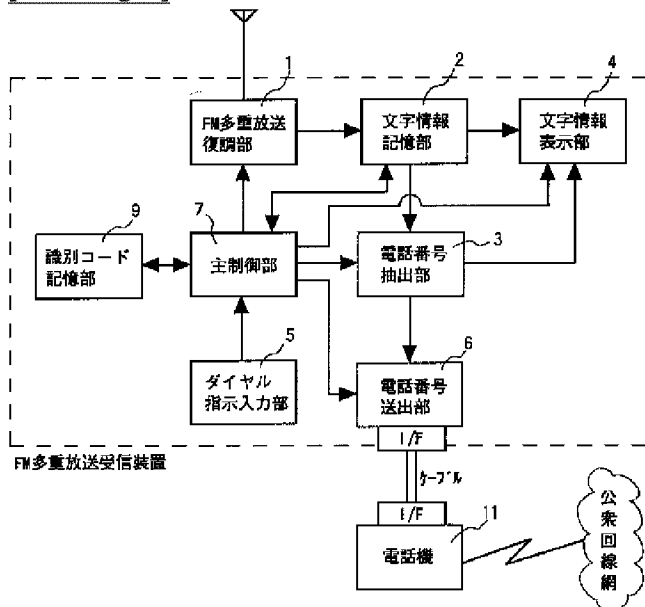
[Drawing 1]



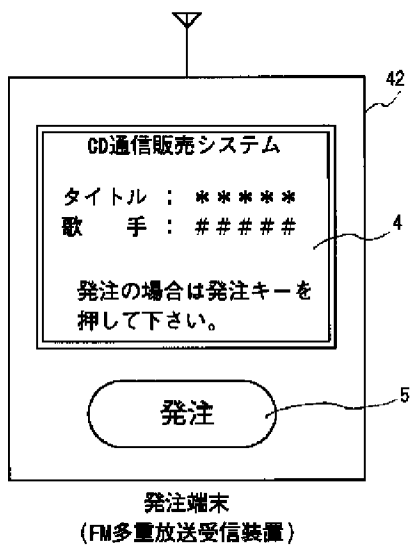
[Drawing 2]



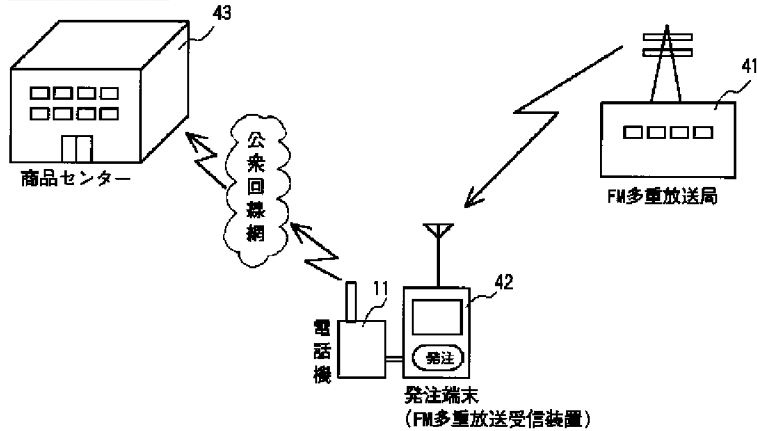
[Drawing 3]



[Drawing 5]



[Drawing 4]



[Translation done.]